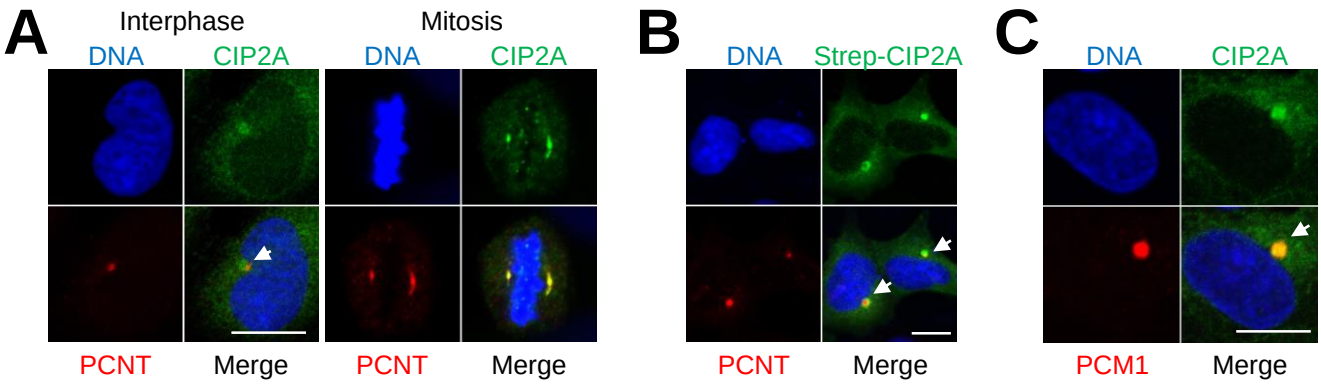

Figure S1. Pericentrosomal localization of CIP2A in somatic cells. (A, C) HEK293 cells were stained with anti-CIP2A antibody, anti-PCNT antibody, or anti-PCM1 antibody with DAPI. (B) HEK293 cells were transfected with Strep-CIP2A vector. After 24 h, cells were stained with anti-Strep-tag antibody and anti-PCNT antibody with DAPI. Arrows indicate centrosomal localization. Representative images from at least four independent experiments are shown. Scale bar, 10 μm.

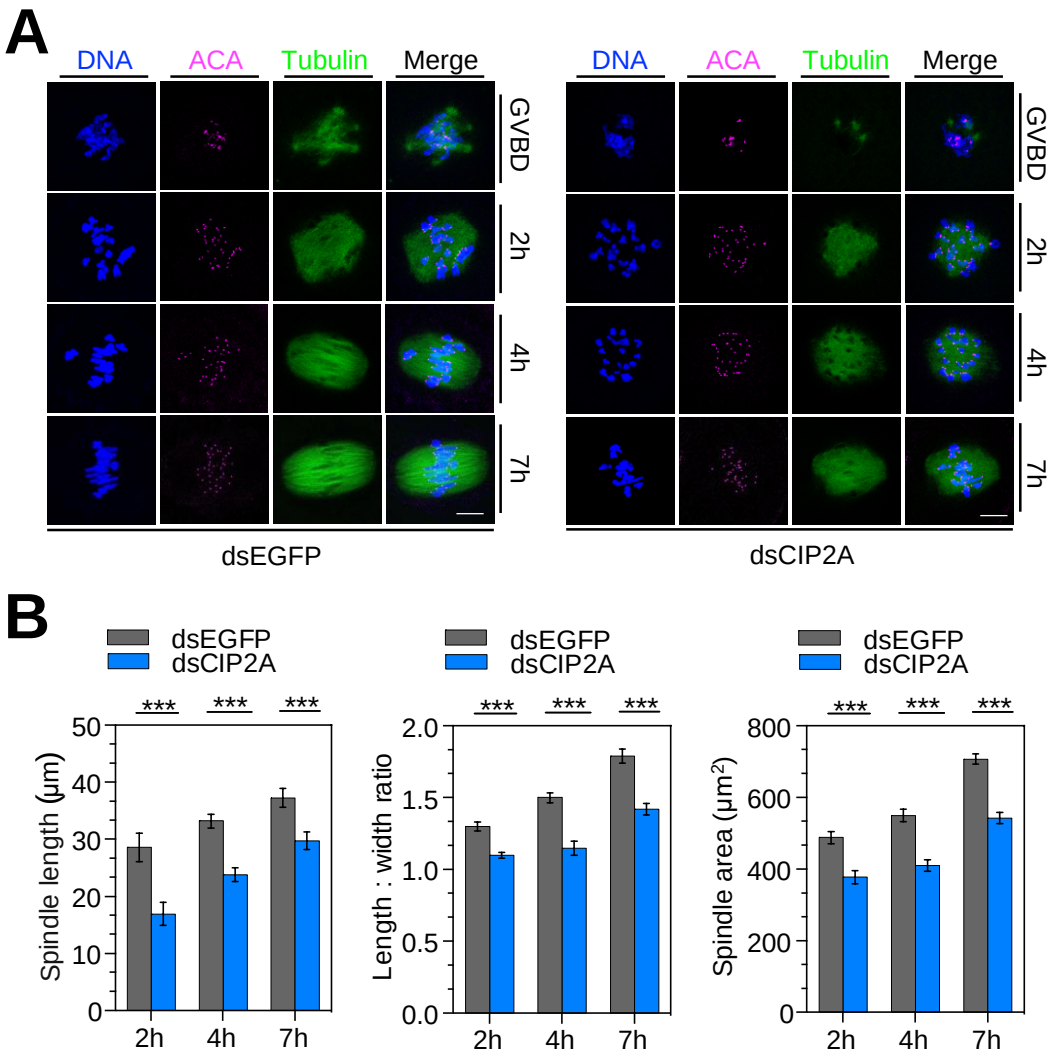

Figure S2. Depletion of CIP2A impairs spindle assembly during meiotic maturation. (A, B) Oocytes injected with dsCIP2A or dsEGFP were cultured in M16 medium containing 2.5 μM milrinone for 24 h and then transferred to milrinone-free M16. Oocytes at 0, 2, 4, 7 h post GVBD were fixed and stained with anti-centromere antibody (ACA), anti-α-tubulin-FITC, and Hoechst to visualize kinetochores, spindle, and DNA, respectively. Representative images from three independent experiments are shown. Scale bar, 10 μm. (B) Spindle length, length:width ratio, and spindle area were quantified. Data are presented as mean ± SEM of at least three independent experiments. ***p< 0.001.

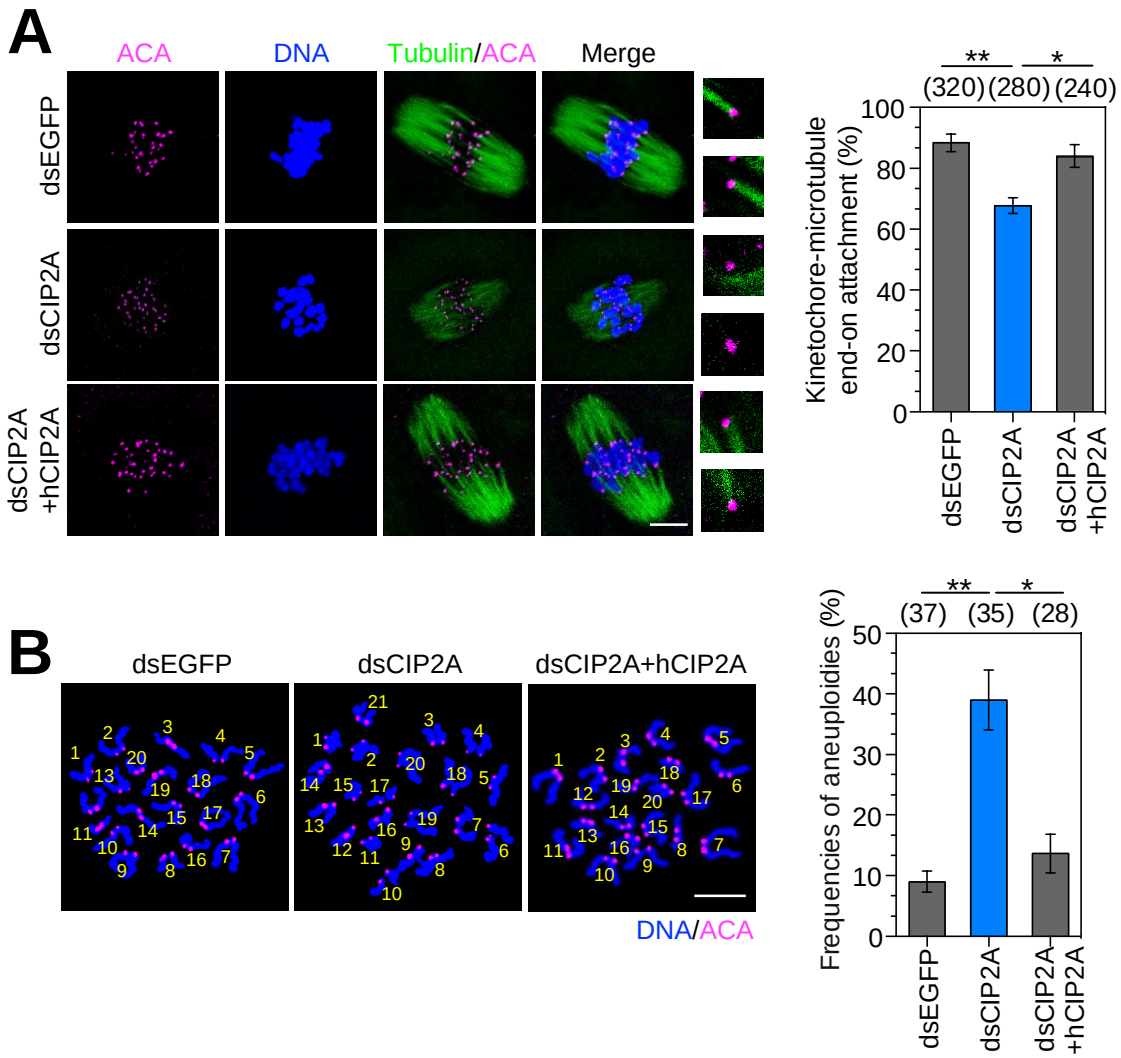

Figure S3. CIP2A knockdown impairs kinetochore-microtubule attachments. (A, B) Oocytes injected with dsEGFP, dsCIP2A, or dsCIP2A+hCIP2A were cultured in M16 medium containing 2.5 μM milrinone for 24 h and then transferred to milrinone-free M16. Oocytes at 7 h post GVBD were fixed and stained with anti-centromere antibody (ACA), anti-α-tubulin-FITC, and Hoechst to visualize kinetochores, spindle, and DNA, respectively. Representative images from two independent experiments are shown. Scale bar, 10 μm. Kinetochore-MT end-on attachments were quantified. The number of kinetochores analyzed is specified in brackets. (B) The incidence of aneuploidy was quantified. Data are obtained from three independent experiments with the indicated number of oocytes shown above the bars. *p<0.05, **p< 0.01.

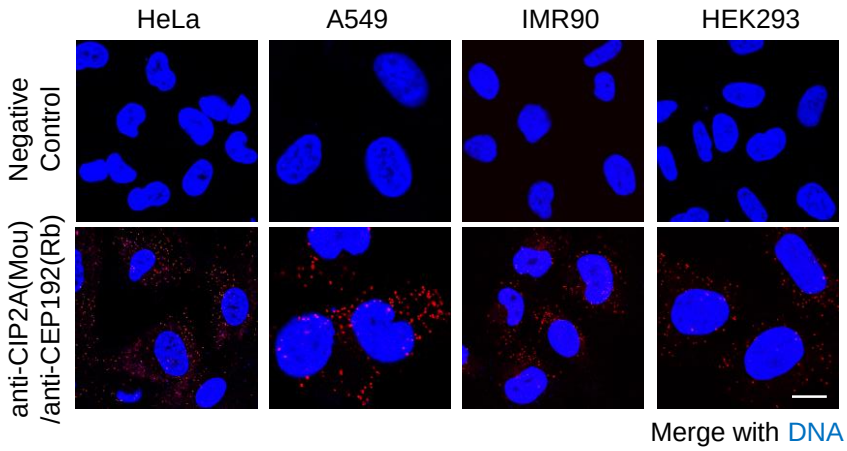

Figure S4. CIP2A is associated with CEP192 in somatic cells. HeLa, A549, IMR90, and HEK293 cells were fixed and incubated with mouse anti-CIP2A antibody together with rabbit anti-CEP192 antibody, followed by *in situ* PLA analysis. Cells depleted of CIP2A with siRNA were used as a negative control (upper panel). Representative images from at least three independent experiments are shown. Scale bar, 10 μm.

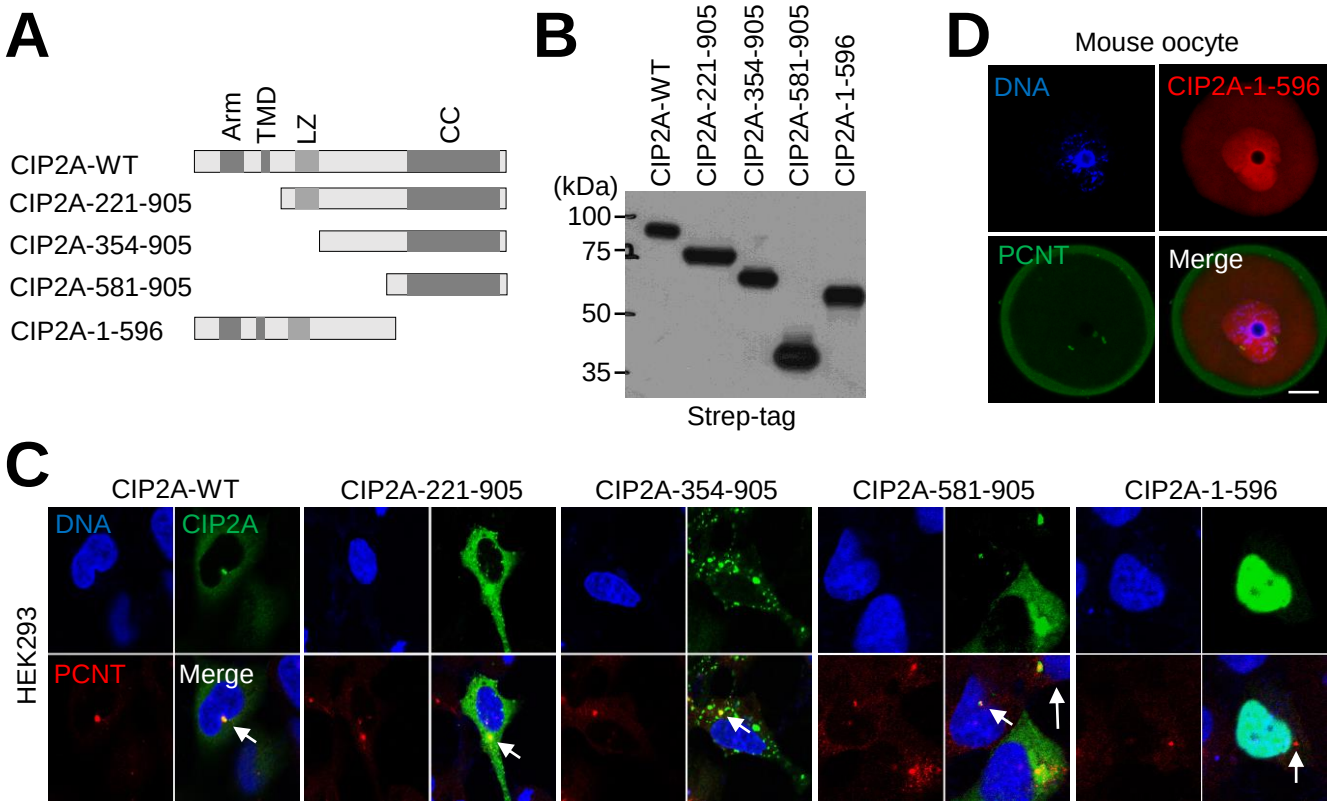

Figure S5. The coiled-coil domain of CIP2A is required for centrosomal localization in somatic cells. (A) A schematic diagram of Strep-CIP2A deletion constructs is shown. (B, C) HEK293 cells were transfected with the indicated Strep-CIP2A deletion constructs for 24 h. (B) Lysates were immunoblotted with Strep-tag antibody. (C) Cells were fixed and stained with anti-Strep-tag antibody (CIP2A), anti-PCNT antibody, and DAPI. Representative images from at least three independent experiments are shown. Arrows indicate centrosomal localization. Scale bar, 10 μm. (D) Oocytes injected with cRNAs encoding CIP2A lacking coiled-coil domain (CIP2A-1-596) were stained anti-PCNT and Hoechst. Scale bar, 20 μm.